

REMARKS

Information Disclosure Statements (IDSs)

Applicants note that reference number 157 was not initialed on the PTO-1449 form from the IDS hand delivered on March 3, 2003. Applicants respectfully request consideration and return of the initialed PTO-1449 Form.

A Supplemental Statement of Related Cases accompanies this amendment. Consideration of the listed pending applications with respect to the present application is respectfully requested.

Amendments

Claim 1 is amended to refer to a variant of a parent polypeptide comprising a human "IgG1" Fc region, with basis for this amendment found in at least claim 4 (cancelled herein as moot). Claim 8 is cancelled without prejudice or disclaimer. Claim 10 has been amended to recite "other than at amino acid positions 233 to 239," with support for this language found on at least page 16, lines 21-22. Claims 14, 50 and 61 are amended to explicitly disclaim native sequence Fc regions, with specification basis for the language being found on at least page 13, lines 8-15. Claim 14 deletes positions 326, and 333; dependent claim 23 deletes positions 276, 309, 320, 322, 326, 331, 333, 334; dependent claim 26 deletes position 333; dependent claim 28 deletes positions 276, 309, 320, 322, 326, and 331; and claim 50 deletes positions 326 and 333. Applicants note for the record that the claims herein still include modifications/substitutions at the deleted positions, provided they are combined with one or more of the modifications/substitutions set forth in the claim(s). The typographical error concerning "positions" in claim 28 is also fixed. Claim 50 recites a variant Fc region with "increased binding to an Fc gamma receptor (FcγR)," with basis for this language found in original claim 23, for instance. Claim 55 is cancelled due to the amendment of claim 50. The typographical error in claim 56 is corrected. In that the amendments do not introduce new matter, entry thereof is respectfully requested.

Objections

Claim 6 is objected to under 37 CFR 1.75(c) as being of improper independent form for failing to further limit the subject matter of a previous claim.

Since claim 1 (on which claim 6 depends) concerns a variant which mediates ADCC more effectively, or binds an FcγRIII with better affinity, Applicants respectfully submit that claim 6 further limits the subject matter of claim 1

in specifically requiring the latter of these two functions. Reconsideration of the objection to claim 6 is respectfully requested.

Claim 7 is objected to under 37 CFR 1.75(c) as being of improper independent form for failing to further limit the subject matter of a previous claim. The Examiner states that claim 7 fails to limit claim 1, since claim 1 already requires at least two amino acid substitutions.

Applicants believe claim 8 was intended. That claim has been cancelled herein, thus obviating the objection insofar as it does apply to claim 8.

Claims 23 and 28 are objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim; claim 23 for reciting positions 276, 309, 320, 322, 331, and 334 not recited in claim 14, and claim 28 for reciting positions 276, 309, 320, 322 and 331 not recited in claim 14.

The objection is obviated by the amendment of claims 23 and 28 herein. Reconsideration and withdrawal of the objection is respectfully requested.

Section 112, 2<sup>nd</sup> paragraph

Claims 4, 10, and 50-60 are rejected as being indefinite.

The rejection of claim 4, as depending from cancelled claim 3, is obviated by the cancellation herein of claim 4.

The rejection of claim 10 is addressed by adopting the language from line 22 on page 16 of the specification concerning the amino acid positions of the lower hinge region.

The rejection of claim 50 as not reciting the elected embodiment of group I or not reciting altered Fc binding property is obviated by the incorporation of the language "increased binding to an Fc gamma receptor (FcγR)" into the preamble thereof.

Reconsideration of the rejection of claims 4, 10 and 50-60 in view of the above amendments is respectfully requested.

Applicants respectfully traverse the rejection of claim 61. The recitation in

claim 61 "which variant binds an Fc gamma receptor III (FcγRIII) with better affinity than the parent polypeptide" is supported in at least original claim 1 which recited a variant which mediates ADCC more effectively, or binds an FcγR with better affinity. Thus, original claim 1, when combined with claim 6, provided support for the variant which binds an FcγRIII with better affinity than the parent polypeptide.

Reconsideration of the rejection of claim 61 in view of the above remarks is respectfully requested.

Section 102(b) - Chappel et al.

Claims 14-15 and 23 are rejected under 35 USC Section 102(b) as being anticipated by Chappel et al. JBC 268:25124 (1993). The Examiner urges that Table 2 of Chappel et al. shows a modification at position 339, as well as 309. The Examiner further asserts that cancellation of position 309 does not overcome the rejection of dependent claim 23 which still recites 309.

First, with respect to the substitution at position 339 in Table 2 of Chappel et al., Applicants respectfully point out that position 339 is not specifically listed in claim 14. As to dependent claim 23, that basis of the rejection is obviated by the deletion of position 309 from dependent claim 23 herein. Reconsideration and withdrawal of the rejection over Chappel et al. is respectfully requested in view of the above.

Section 102(b) - Morgan et al.

Claims 23 and 27-28 are rejected under 35 USC Section 102(b) as being anticipated by Morgan et al. (WO94/29351). The Examiner asserts that since claims 23 and 28 still recite "320," these claims, and intervening claim 27, remain rejected.

The rejection is obviated by the deletion of position 320 from dependent claims 23 and 28 herein. Reconsideration and withdrawal of the rejection is requested in view of the above.

Section 102(e) - Idusogie et al.

Claims 23-24 and 26-30 are rejected under 35 USC Section 102(e) as being anticipated by Idusogie et al. (US Patent No. 6,242,195). The Examiner urges that cancelling recitation of positions 276, 320, 322, 331 and 334 from claim 14 has not overcome the rejection of claims 23 and 28.

The rejection is obviated by the deletion of positions 276, 320, 322, 331 and 334 from dependent claims 23 and 28 herein. Reconsideration and withdrawal of the rejection is requested in view of the above.

Section 102(b)- Steplewski et al.

Claims 1-2, 4-6, 8-11, 14-15, 23-24, 36, 50, 53 and 59-61 are rejected under 25 USC Section 102(b) as being anticipated by Steplewski et al. PNAS 85:4852 (1988). Claims 1 and 35-36 are rejected under 35 USC Section 103(a) over Steplewski et al.

First, as to claim 1, that claim, as amended herein, refers to a variant of a parent polypeptide comprising a "human IgG1 Fc region." The present application describes how to modify a parent polypeptide comprising a human IgG1 Fc region, such that the variant mediates ADCC in the presence of human effector cells more effectively, or binds an FcγRIII with better affinity, than the parent polypeptide. Steplewski et al. does not teach how to improve the ADCC activity or FcγRIII binding function of an antibody with an IgG1 Fc region. Reconsideration and withdrawal of the rejection of claim 1 (and claims 2, 5-6, 9-11 and 36-37 which depend thereon) is respectfully requested in view of the above.

As to claims 14, 50 and 60, those claims, as amended herein, specifically exclude the native sequence IgG1, IgG2, IgG3 and IgG4 Fc regions in the Steplewski et al. constructs. Hence, claims 14, 50 and 61, and the claims which depend thereon (claims 15, 23-24, 36, 53 and 59-60), are patentable over Steplewski et al.

Reconsideration and withdrawal of the rejection over Steplewski et al. is respectfully requested in view of the above.

Section 102(e) - '624 patent

Claims 14-15, 23-28, 50, 53, 55 and 59-60 are rejected under 35 USC Section 102(e) as being anticipated by US Patent No. 6,528,624 ("the '624 patent") with respect to the K326A and E333A mutants therein.

Applicants submit the rejection is obviated by the amendment of claim 14 and 50 herein to delete the position 326 and 333 modifications. Reconsideration and withdrawal of the rejection is respectfully requested.

Serial No.: 09/483,588

Obviousness-type double patenting

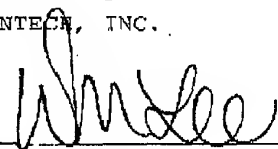
Claims 14-15, 23-28, 50, 53, 55 and 59-60 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12 and 18 of the '624 patent.

Applicants submit the rejection is obviated by the amendment of claim 14 and 50 herein to delete the position 326 and 333 modifications. Reconsideration and withdrawal of the rejection is respectfully requested.

Applicants believe that this application is now in condition for allowance and look forward to early notification to that effect.

Respectfully submitted,  
GENENTECH, INC.

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By:   
Wendy M. Lee  
Reg. No. 40,378  
Telephone: (650) 225-1994